

What is Claimed Is:

1. A method in a channel adapter, the method comprising:  
receiving a link management packet from a link partner and in response selecting, according to InfiniBand™ protocol, a selected active link width;  
setting a multiplexer circuit, configured for selectively switching frame data of a prescribed maximum link width to a selected one of a plurality of available link widths, to the selected active link width;  
receiving the frame data from an output buffer according to the prescribed maximum link width; and  
outputting the frame data from the multiplexer circuit to a transmit bus according to the selected active link width.
2. The method of claim 1, wherein the multiplexer circuit includes a first multiplexer for outputting the frame data onto a first output according to a first of the available link widths, and a second multiplexer circuit configured for switching the frame data onto a second output according to a second of the available link widths, the setting step including selecting one of the output buffer, the first output, and the second output for transfer of the frame data according to the selected active link width.
3. The method of claim 2, wherein the multiplexer circuit further includes a prescribed number of registers, corresponding to the prescribed maximum link width, for storing respective units of the frame data, the outputting step including outputting the frame data units in a sequence relative to the selected active link width.
4. The method of claim 3, wherein the second multiplexer circuit is configured for grouping the frame data units into a plurality of unit groups, the outputting step including causing the second multiplexer circuit to output each of the unit groups in sequence based on the sequencing signals.
5. The method of claim 3, wherein the outputting step includes outputting from the first multiplexer a corresponding one of the frame data units in sequence.

6. A channel adapter comprising:
- a memory configured for storing port configuration settings, including a selected active link width based on a received link management packet according to InfiniBand™ protocol and sent by a link partner; and
- 5 a link layer module including:
- (1) a multiplexer circuit configured for selectively switching frame data of a prescribed maximum link width to a selected one of a plurality of available link widths for transmission onto a transmit bus, and
- (2) a bus controller configured for setting the multiplexer circuit to switch the frame data to
- 10 the selected active link width.

7. The channel adapter of claim 6, wherein the multiplexer circuit includes a first multiplexer for outputting the frame data onto a first output according to a first of the available link widths, and a second multiplexer circuit configured for switching the frame data onto a second output according to a second of the available link widths, the bus controller configured for selecting one of
- 5 the prescribed maximum link width, the first output, and the second output for transfer of the frame data according to the selected active link width.

8. The channel adapter of claim 7, wherein the multiplexer circuit further includes a prescribed number of registers, corresponding to the prescribed maximum link width, for storing respective units of the frame data, the multiplexer circuit configured for outputting the frame data units in a sequence relative to the selected active link width based on sequencing signals output by the bus
- 5 controller.

9. The channel adapter of claim 7, wherein the second multiplexer circuit is configured for grouping the frame data units into a plurality of unit groups, the second multiplexer circuit configured for outputting a selected one of the unit groups based on the sequencing signals.

10. The channel adapter of claim 8, wherein the first multiplexer is configured for outputting a corresponding one of the frame data units in sequence based on the sequencing signals.